Η χρήση ανταγωνιστών υποδοχέων αλδοστερόνης κατά την εισαγωγή και η ενδονοσοκομειακή έκβαση σε νοσηλευόμενους ασθενείς με οξεία καρδιακή ανεπάρκεια

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Background

- Aldosterone levels are elevated in acute heart failure (AHF), contributing to arrhythmogenesis, myocardial ischemia and renal dysfunction and being associated with worse clinical outcomes[1-2].
- Chronic life-saving HF medications prescribed during hospitalization or at discharge improve long-term outcomes of AHF patients [3-5].

[1]Girerd N, et al. Eur J Heart Fail 2013; [2]Schmidt BM, et al. Hypertension 2006; [3]Fonarow GC, et al. JAMA 2007; [4]Fonarow GC, et al. Am Heart J 2007; [5]Hernandez AF, et al. JAMA 2012

Aim

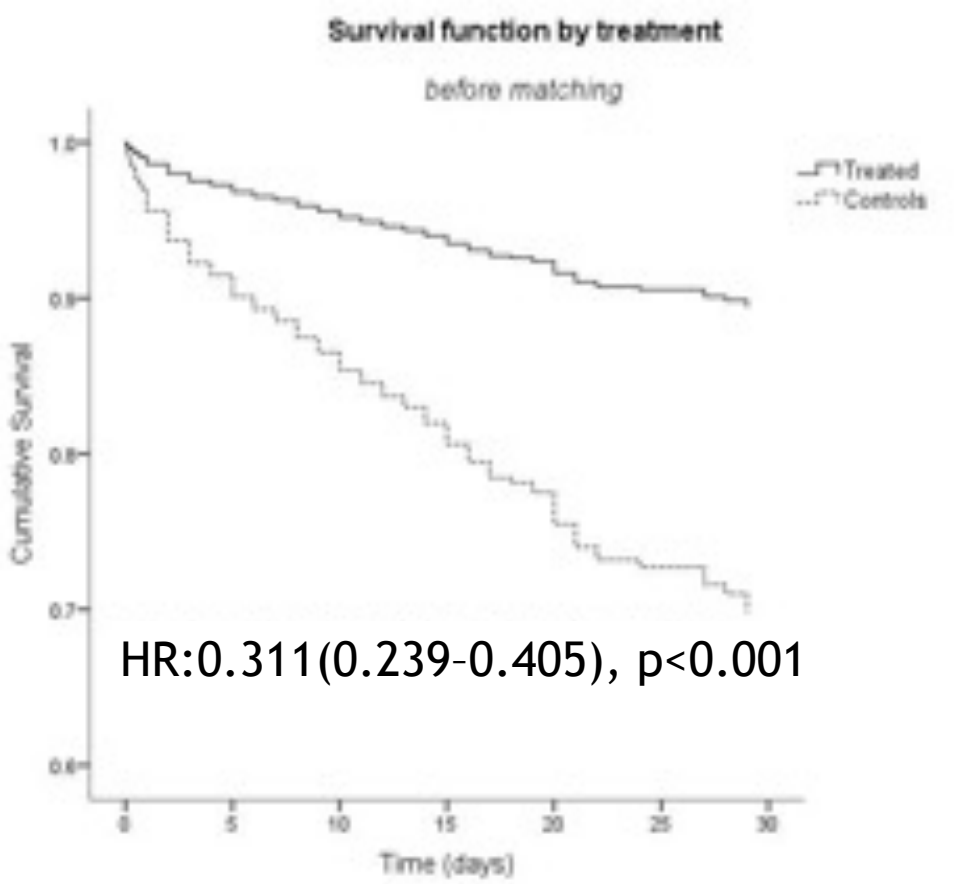
- To assess the effect of mineralocorticoid receptor antagonists (MRAs) administered during hospitalization on short-term outcome in AHF.

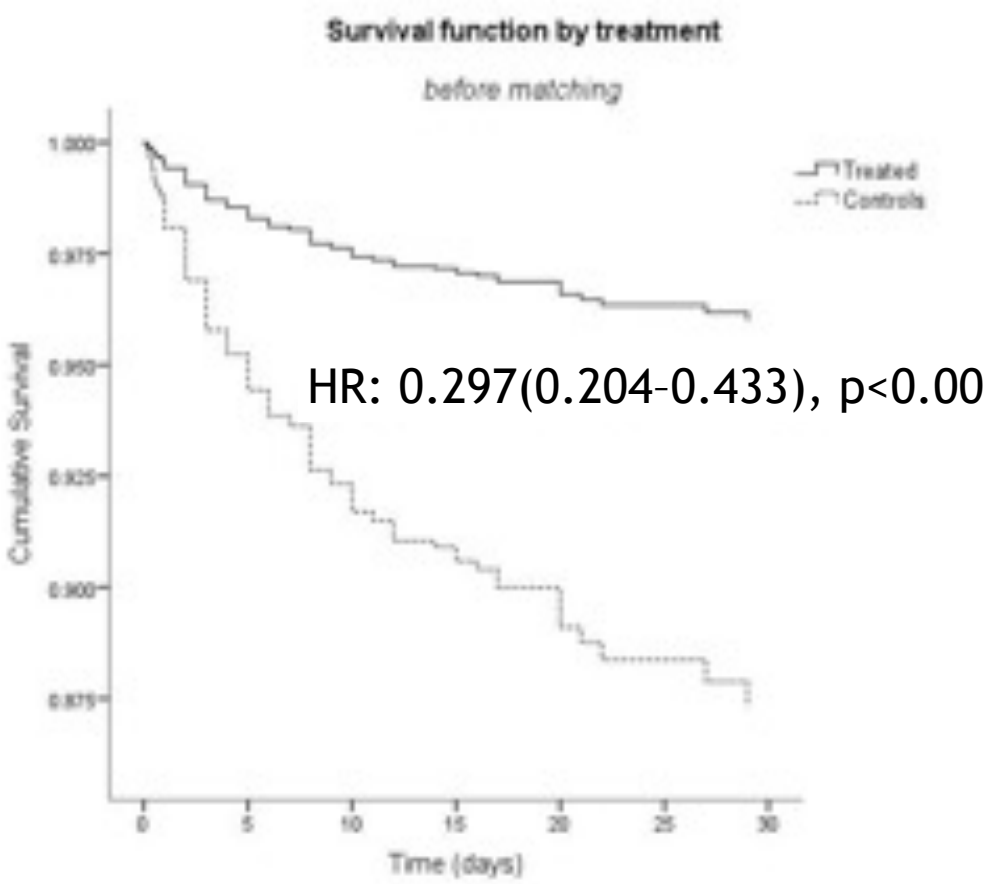
Methods

- Population: ALARM-HF, N=4953 patients
- Comparison: MRA-treated vs MRA-untreated patients
- Propensity-score matching (nearest-neighbour 1:1 matching)
- Endpoint: In-hospital all-cause mortality (up to 30 days).

Effect of MRA during hospitalization on in-hospital mortality *Original cohort*

MRA-treated,
n=1439 (29%)
MRA-untreated
n=3514

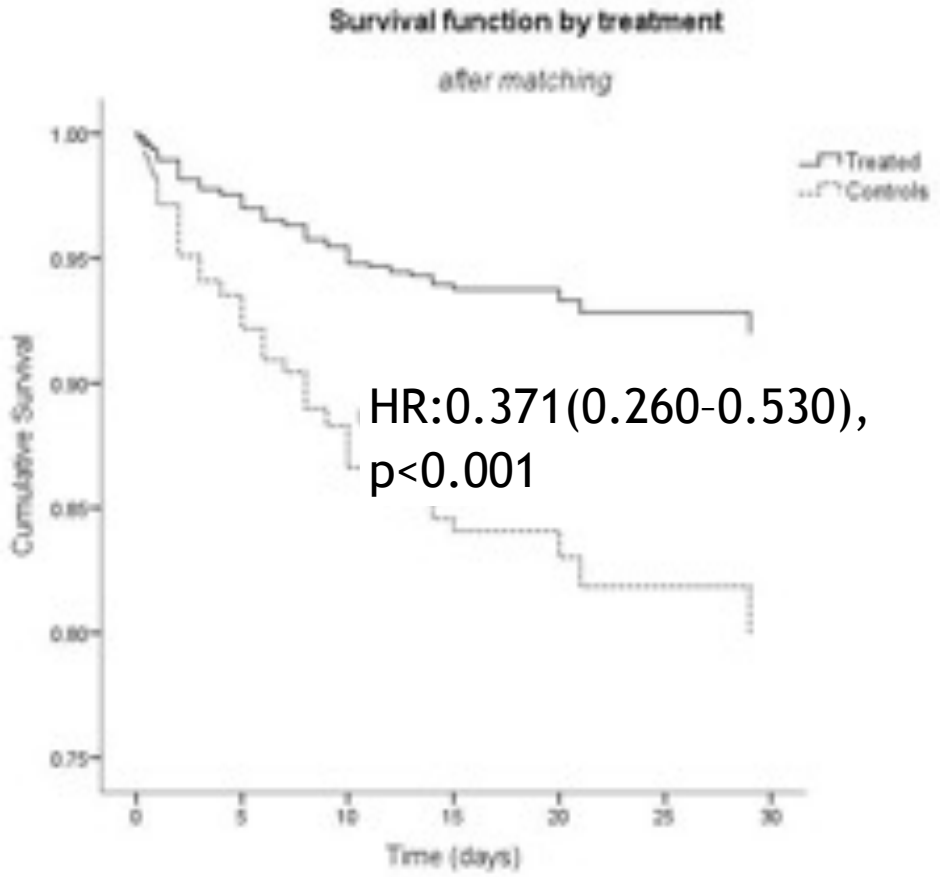


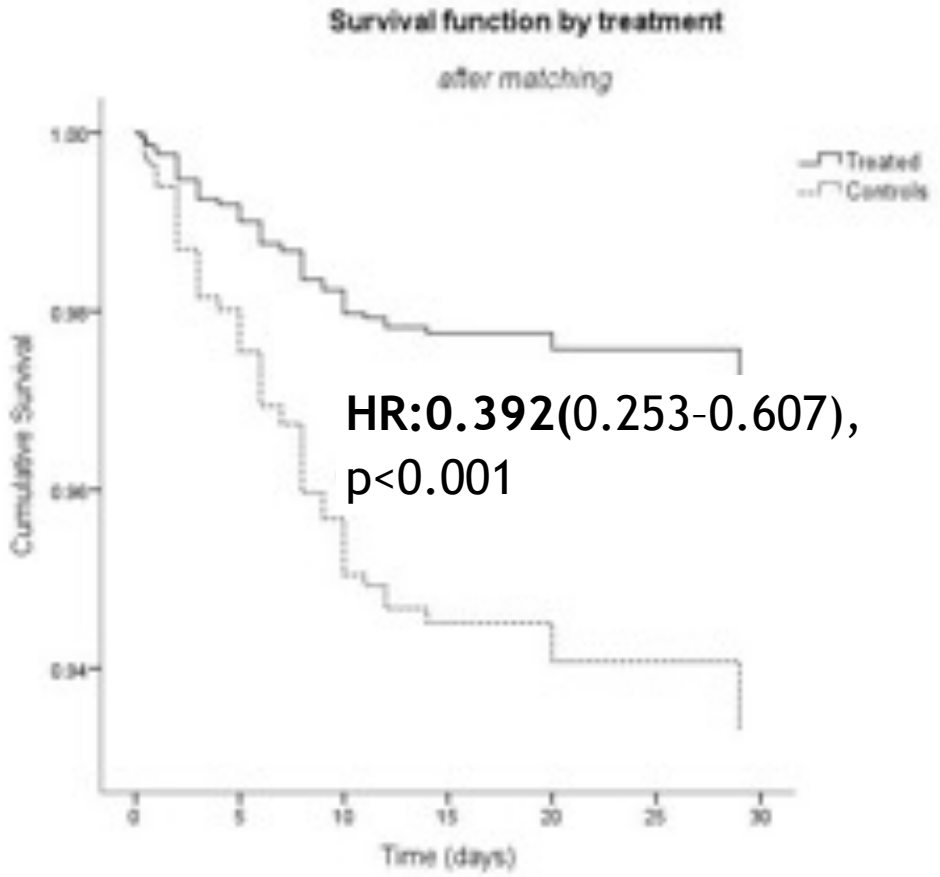


* Adjustment for age category (≤75y vs >75y), sex, systolic blood pressure (SBP), heart rate (HR), atrial fibrillation (AF), NYHA class, left ventricular ejection fraction (LVEF), acute coronary syndrome (ACS) as the cause of acute heart failure (AHF), renal dysfunction and cardiogenic shock at presentation.

Effect of MRA during hospitalization on in-hospital mortality *PS-matched cohort*

MRA-treated, n=1003
MRA-untreated n=1003

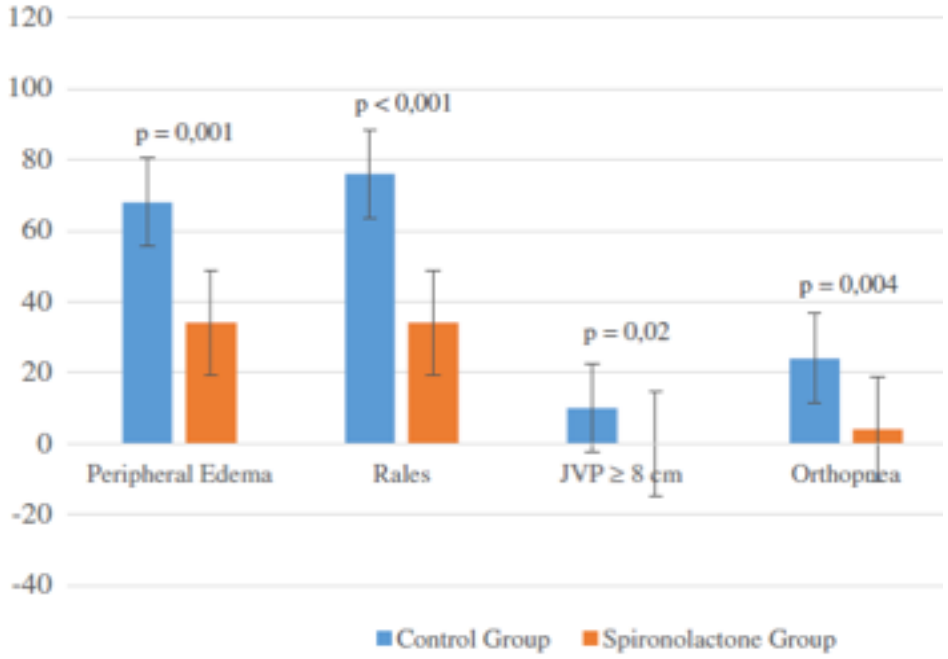


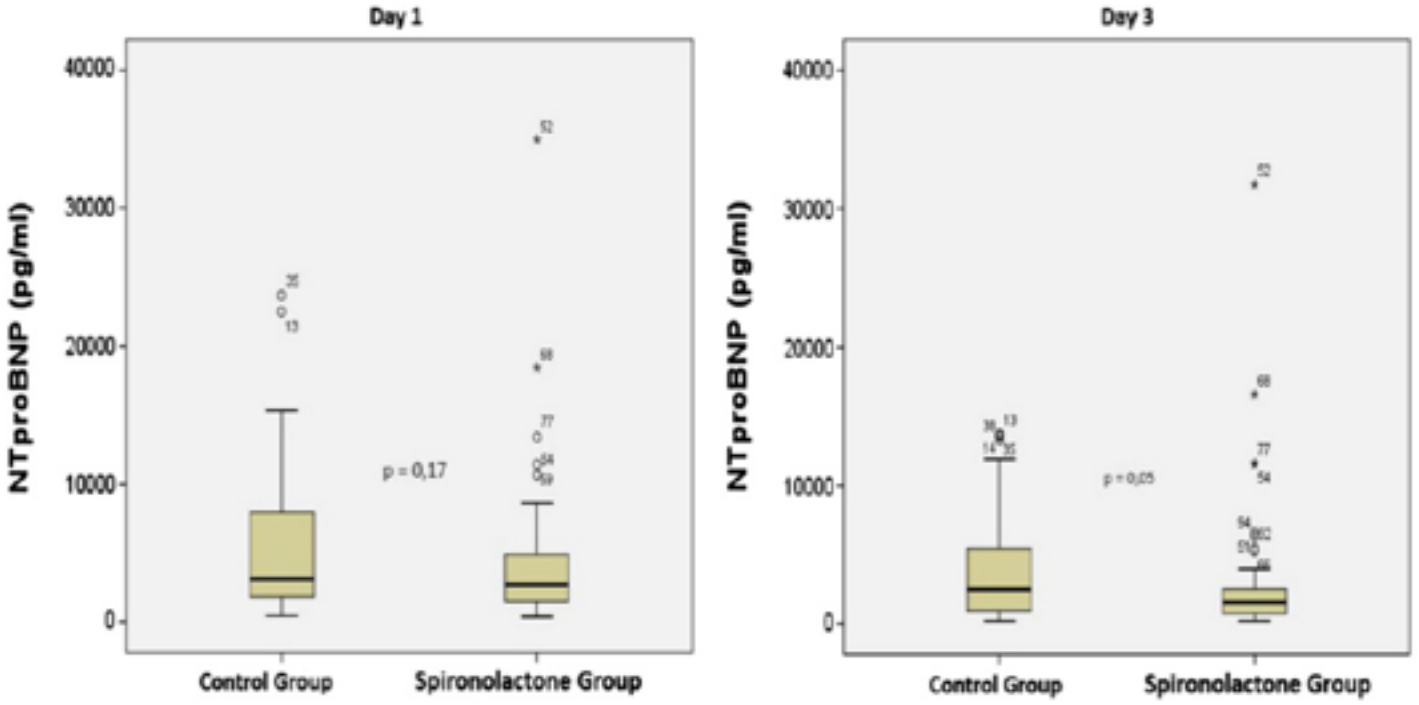


* Adjustment for age category (≤75y vs >75y), sex, systolic blood pressure (SBP), heart rate (HR), atrial fibrillation (AF), NYHA class, left ventricular ejection fraction (LVEF), acute coronary syndrome (ACS) as the cause of acute heart failure (AHF), renal dysfunction and cardiogenic shock at presentation.

Spironolactone during hospitalization reduces congestion and levels of NT-proBNP in AHF

Randomized controlled study; Spironolactone(50-100mg) /placebo (n= 50/50)



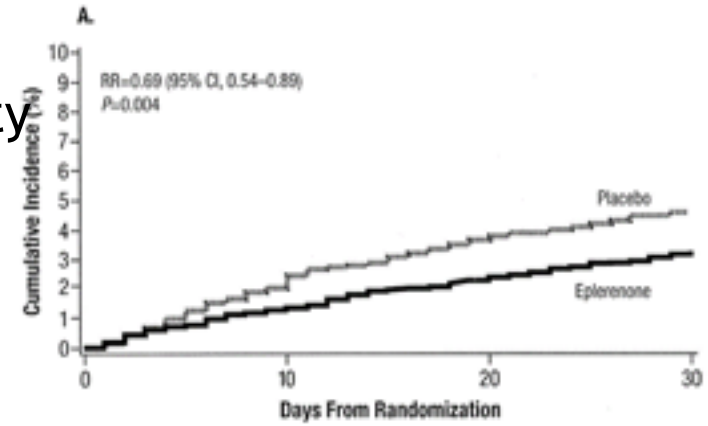


Ferreira JP, et al. Eur J Intern Med 2014

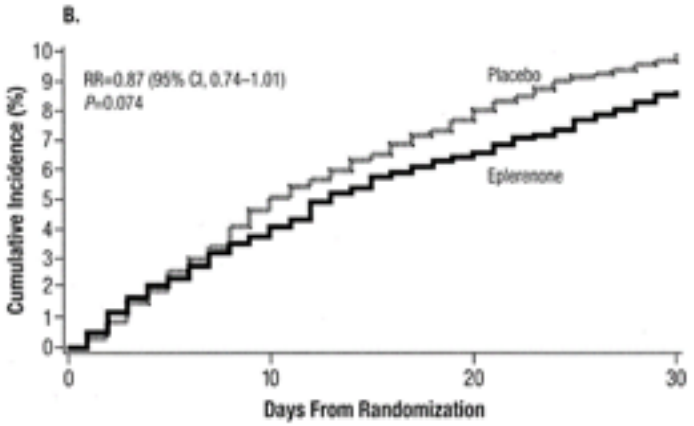
Early administration of eplerenone after AMI with HFrEF reduces 30-day mortality/morbidity

EPHESUS trial: favorable effect of eplerenone observed already from 10 days after AMI

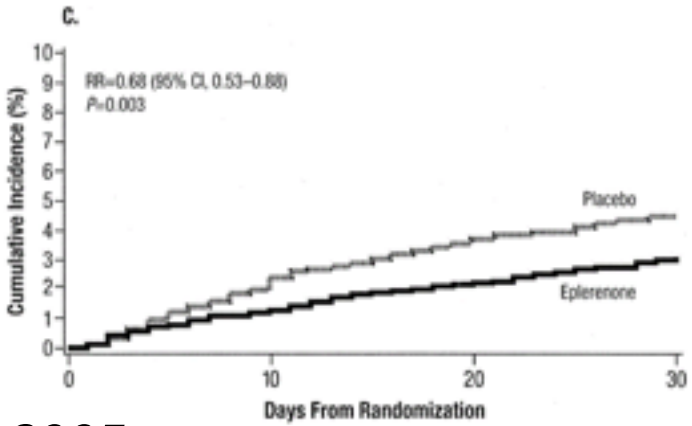
All-cause mortality



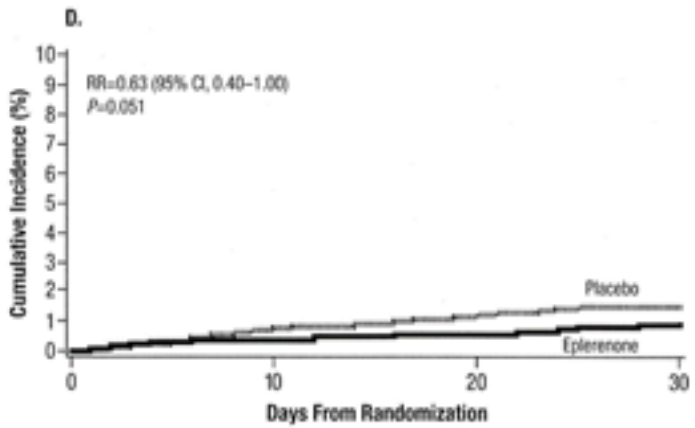
CV death/CV hospitalization



CV death



Sudden cardiac death



Pitt B, et al. JACC 2005

Limitations

- Retrospective survey, potential unknown confounding factors
- Lack of data on the timing of initiation of oral therapies

Conclusions

- MRA therapy during hospitalization for AHF reduce in-hospital mortality
- Prospective, randomized studies may be warranted

Recommendations regarding oral evidence-based disease-modifying therapies in patients with acute heart failure

	Starting dose (mg)	Target dose (mg)
ACE-I		
Captopril[a]	6.25 t.i.d.	50 t.i.d.
Enalapril	2.5 b.i.d.	20 b.i.d.
Lisinopril[a]	2.5–5.0 o.d.	20–35 o.d.
Ramipril	2.5 o.d.	10 o.d.
Trandolapril[a]	0.5 o.d.	4 o.d.
Beta-blockers		
Bisoprolol	1.25 o.d.	10 o.d.
Carvedilol	3.125 b.i.d.	25 b.i.d.[d]
Metoprolol succinate (CR/XL)	12.5–25 o.d.	200 o.d.
Nebivolol[a]	1.25 o.d.	10 o.d.
ARBs		
Candesartan	4–8 o.d.	32 o.d.
Valsartan	40 b.i.d.	160 b.i.d.
Losartan[b,c]	50 o.d.	150 o.d.
MRAs		
Eplerenone	25 o.d.	50 o.d.
Spironolactone	25 o.d.	50 o.d.
ARNI		
Sacubitril/valsartan	49/51 b.i.d.	97/103 b.i.d.
If-channel blocker		
Ivabradine	5 b.i.d.	7.5 b.i.d.

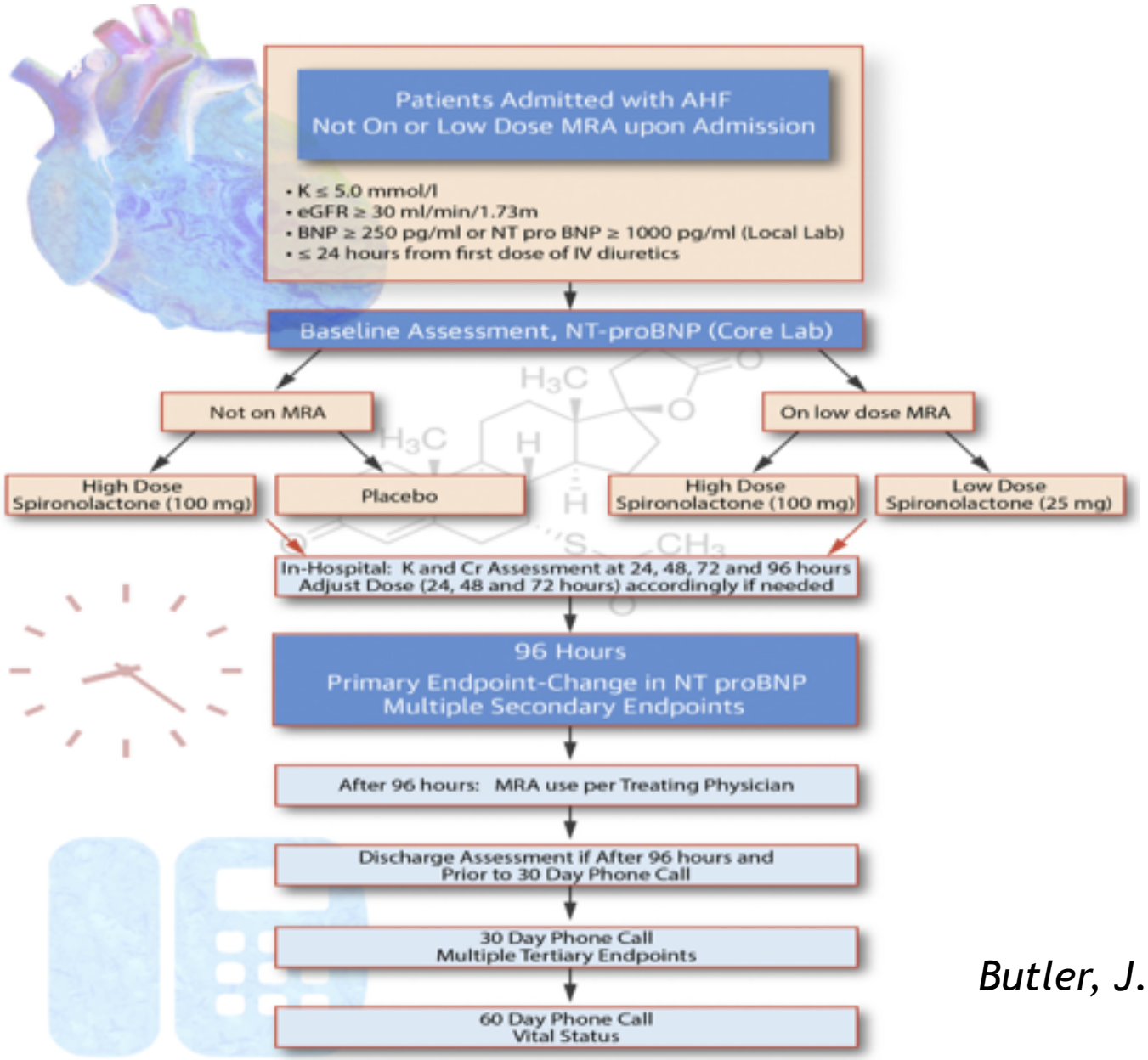
Recommendations	Class [a]	Level [b]
In case of worsening of chronic HFrEF, every attempt should be made to continue evidence-based, disease-modifying therapies, in the absence of haemodynamic instability or contra-indications.	I	C
In the case of de *novo* HFrEF, every attempt should be made to initiate these therapies after haemodynamic stabilization.	I	C

ESC HF guidelines 2016

HEART FAILURE ASSOCIATION OF THE ESC

Rationale and Design of the ATHENA-HF Trial

Aldosterone Targeted Neurohormonal Combined With Natriuresis Therapy in Heart Failure



Butler, J. et al. J Am Coll Cardiol HF. 2016; 4:726-35